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ABSTRACT

Individually, the new educational approaches--team teaching, television, computers, individualized instruction, etc.--work. We know that. The Problem is how to use them. The idea must be to restructure the school system around these new concepts, so that they are an integral part of the teaching and learning process, not just accretions, or merely experiments. (Author/GO)

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Relationships Between the Restructuring of Schools and Communications Technology

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by Rev. Michael J. Dempsey*

I wot well clerks will say, as them leste,
By arguments, that all is for the best
Chaucer: The Frankeleyns Tale. (14th Cent.)

Crises are opportunities for constructive and imaginative change. It would take the most obdurate optimist not to quail before the mounting destructive pressures in American educational systems. Yet, to this writer, it seems as equally narrow-minded to fail to appreciate and attempt to seize the opportunity to reformulate the organization of our instructional systems, given the unique capability for successful change which instructional technology presents to schools for the first time.

Schools are one of the few human businesslike enterprises which annually decrease in system productivity and yet are maintained relatively unchanged. Each year, the input of education increases substantially; each year the output, in terms of number of students taught effectively per teacher, or per school, or per dollar spent, decreases. It has generally been accepted that a qualitative jump in quality of education required smaller class sizes, more materials, more audio-visual equipment, additional school specialists and so forth. Whatever be the case for the practice of the past, there seems little justification now for equating quality in education merely or even basically with greater per student expenditures. It is time to redesign instructional relationships.

Technology has been part of Western life now for several

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centuries. Its applications naturally tended to center about the areas of business and profit-making enterprises. One new factor today is the willingness of many insightful people to consider the application of technology to concerns much more intimate with human life. The field of education is one humanistic endeavor that has not until recently considered itself addressed by the surging tide of technology. The basic process of teaching and learning seemed too interpersonal, too defined by the need for human contact, to be substantially assisted by "industrialization". Books, buildings and mechanical devices were introduced into the teaching-learning process as they were needed and became available, but never fundamentally altered the prevailing concept. They were accidental and accessory to the process; they enabled the school to function better, but without suggesting that perhaps they should be considered a structural component of the process itself.

The formidable pressures upon school systems today are compounding at least one unexpected dividend, the need to innovate simply to survive. Now, this by no means guarantees that innovation will be worthwhile or that it will be related to the basic problems of the schools. It is quite possible that new structures, whether organizational, interpersonal, or physical, will be, as they have tended to be in the past, mainly experimental, temporary and out of the mainstream of educational practice. Nevertheless, the problems themselves are now so great and apparently so impervious to solution by any combination of regular procedures that educators, for the first time, are tending to consider alternatives.

I am reflecting these views from a background rooted in the Catholic School System of this country. School system problems are often surprisingly similar in both public and non-public schools despite the fact that, to the uncritical public eye, the systems seem so dissimilar. The startling increase in the proportion of lay teachers, the geometrically increasing curricular demands, the multiplying roles of the schools, the haziness of educational objectives, the sky-rocketing fiscal imbalance between costs and resources, the chorus of questionning concerning the effectiveness of and need for value and especially religious value oriented education and many more frustrating dilemmas are the daily fare of Diocesan Superintendents, their assistants and the host of religious sub-agencies associated with the operation of a Diocesan school system. Yet the point can, I believe, be made even more strongly here, namely the pressures themselves are creating a climate favorable to the substantive alteration of our school systems that has not been present in the past. It is possible that the flexibility of parochial school systems, referred to by Commissioner Howe at the 1968 National Convention of the N.C.E.A. in San Francisco, combined with a presently very substantial and growing technological involvement, may be able to evolve a unique and viable model for the educators of the future.

The remainder of this paper will concentrate upon communications technology, especially in parochial school systems, its potential, its present level of implementation, and a

number of avenues upon which some of us have already or are planning to embark. Let us begin with a brief outline of the implosion of television into Catholic school systems.

In early 1965, except for the Archdiocese of Boston's UHF Channel 38, no parochial school system in the United States operated a television system for its schools. Today, eight major Dioceses and Archdioceses operate very extensive 2500 megahertz instructional television systems that reach a potential elementary and secondary audience of 24,154,291. Another ten diocesan school systems are in various stages of planning for such systems. The statistics are impressive enough; what is more significant is the fact that none of these systems was inaugurated with a basic mentality such as, "We would like television in order to add an extra measure of equality to our educational system" or even, "A television system will permit us to experiment with new instructional techniques" and certainly not, "We have a little extra money, so let's try this promising new educational tool". These are all worthwhile motives; indeed, the negative findings of the Ford and Carnegie Foundation reports on instructional uses of television would likely never have resulted if educators had been influenced by such thinking as they approved or pressed for such projects. It is easy to generalize ebulliently concerning the underlying support for diocesan decisions and to gloss over the false starts, the mistakes in planning, the false, often sub-conscious expectations

raised by too lyrical speeches and articles. Nevertheless, it is a fact that these systems were built to attack, for good or evil, the spectral problems facing Catholic education. Because, by intent even if not yet in fact, they are to be integral to the educative process, and not peripheral, they offer a genuine basis for confidence that these school systems will make a significant contribution to American education in the area of restructuring through technology.

Two embryonic corporate structures have been established to provide two different levels of service to the Dioceses now operating ITFS systems. One organization will coordinate cooperative services needed for routine functioning. These would include the dissemination of information, the cooperative production and distribution of programs, the cooperative purchasing of materials and equipment, the development of sources of funding and so forth. The other provides a legal structure for a large scale cooperative venture into experimentation involving a combination of technologies, television, computer and satellite, in such a way as to open an approach to the reconstituting of the relationships between the elements of an instructional system, namely, students, teachers, materials and technology. Substantive experimentation along these lines has been carried on in the Diocese of Brooklyn over the past two years. It represents an effort to move from theoretic constructions to the concrete packaging of a

viable instructional system intended to test out the promise of lower per unit cost for education. It assumes the absolute need for education to integrate innovative instructional techniques and hardware with a flexible new organization of the school system itself.

Most, perhaps all, new approaches to education have been unable to overcome the obstacles presented by traditional school organization. Each new technique, whether it be team teaching, instructional television, ungraded primaries, tutorial systems and so forth, is inserted into a traditional school organization and the process of organic rejection of the transplant seems to occur with dismaying regularity. It is not a question simply of the relative merits of the traditional and the new; quite possibly the former in a particular case is superior. The difficulty lies in the fact that the new makes demands on the old and vice versa. The participants in a team teaching system must have their schedules considerably altered from that required of fellow teachers. The ungraded primary raises questions by fourth grade teachers who are accustomed to a chronologically homogeneous group and presents often a problem for administrators to find instructional spaces different from the number and/or size ordinarily provided for the graded primary classes. Required high school class schedules make a shambles of the most ingeniously contrived television schedule. The list could be extended, but the point is not particularly controverted; the introduction of new curricular approaches and school organizations create frequently inavoidable abrasive planes of

contact with the predominant system. Frequently these problems cannot be contained sufficiently to maintain the innovation.

The introduction of technology into education faces also the additional awkwardness of seeming to challenge the accepted position of the human person in the process of instruction. How often is the charge made that the teacher is in danger of being replaced by the television set or the computer or some other mechanical monster. The presiding mind-set will accept these technologies only if they do not disturb the status quo; the teacher, the student, the book, the classroom must continue to do what they have always done. Of course, such a departmentalized superimposition of technology can happen; indeed this is precisely the reason why multi-million dollar television, computer and other systems of hardware are held to performing such peripheral functions for most of American education. It is not that American education does not use these instrumentalities, but that their utilization is rendered unimportant and ineffectual in relation to the problems of education. Nevertheless, it would be a mistake, in my opinion, to rail against this dominant attitude which is basically self-defensive in the face of suggestions and pressures that do not approach the question of education and schools organically and, as a result, often do not present acceptable alternatives to the persons threatened.

Technology must become involved in education in such a way that it is tied to the substantive core of the educative process and not left to dabble on the periphery. This cannot happen without major structural reorganization of the schools. Up to this period, there was no other way to improve the quality of education, or extend it s reach, than to multiply the elements of education, namely, teachers, buildings and materials. This is no longer feasible nor, in a sense, is it necessary. It is simply not possible for school systems to find, train and pay the school staffs that would be required to meet modern educational demands; it is no longer possible for schools, as presently organized, to cope with the volume, complexity, and significance of the data modern life presents to education for digestion, reformulation and presentation to students. It is ordinarily stated in terms of money, but the problem is not simply a lack of money. It is more true to say that the function that instructional systems are required to perform today are beyond their designed capabilities. Even the surburban school, spending $1,600.00 annually per child without serious strain, and providing every service ordinarily available to teachers and students, still inadequately handles the minds and persons of its children when one considers the gap existing between the potential for and the actuality of learning.

Anyone can increase the quality of instruction or extend its benefits to more students by doubling the per unit

expenditure. But, experimental schools that designedly exceed the normal annual per student cost very substantially are not capable of being replicated on a large scale. What good does it do to discover that the introduction of instructional television, or computer assisted instruction, or massive doses of films or modular scheduling, or team teaching or any other worthwhile hardware or software, raises achievement levels if at the same time it is clear that nothing reasonably analogous to the experiment can be employed throughout the school district or diocese. In one sense, we are swimming in a sea of experiments with technologies that so far have not been related to the mainstream of education. We have made the point, over and over again, that the educational process can be substantially assisted, and improved by, even profitably reconstituted around, one or many of these new approaches and technologies; as yet, we have not actually done so in any large scale believable way.

Suppose we were to do the following. Let us take a school or an entire school system and accept as given the enrolled number of students, the physical plant, the present size of the staff and the actual operating cost. Within these parameters, considered flexibly, and apart from local or state requirements, set as the educational objectives only a level of education at least equal to that presently achieved in terms of quality or quantity. Then permit the school and system staff, with whatever

resources of consultation is needed, to rethink the entire school or school system structure, governed only by the results. Why, for example, must a high school student be in the school building from 9:00 A. M. to 2:30 P. M.? Why should there be classes? Why should not most of the student's time be spent in independent study? Very few, if any, ideas would be likely to surface that have not been part of the vocabulary of visionary educators for the last many years. But the freedom would be present to reorganize totally the structure of the school so as to take advantage of any technique or technology that offers a practical and better alternative to traditional teaching and learning. It is my belief that, within such an operational design, we would be able to structure schools and school systems that are capable of educating more students better at a lower per unit expenditure than is the case today or is possible so long as we insist on the present structuring of schools.

Such a project must not be viewed as "tentative" in the sense that term ordinarily has when used of experiments. We know that these individual new educational approaches (team teaching, television, computers, individualized instruction etc.) work; they do not have to be validated. What is at question is the context into which they are inserted. The idea is to create a flexible environment already committed to the use of all these techniques in whatever combination, or relationship is required to

effectuate better and more efficient learning. There is a kind of tentativeness present about the particular formulation that may arise at the beginning of such a procedure. But the basic structure is the conferral of a degree of professional freedom, not the initial outcome of the exercise of that freedom. We should decide at the outset that this is not an experiment in the sense that it can be dispensed with if subsequent events are not satisfactory. In my conception, we often fail in education for lack of decisiveness in recognizing what is known to be worthwhile and <u>insisting</u> that it be utilized successfully. We would commit ourselves to a process of change, of accommodation to known values, within a context of the unchallenged objectives of quality and efficiency. The firmness of the commitment would be critical to success.

The Diocese of Brooklyn is edging toward a procedure of this nature. Circumstances of finances and teacher shortages, together with the continuing pressure for religiously oriented education insist that we consider alternatives to the present routine of school operation. We envision that one high school and/or one elementary would be selected as prototypes on the basis of the ease with which this new approach might be applied. It would be most important that the schools selected be reasonably typical of the school system since the prime consideration is the ultimate replication of the process in the remainder of the schools. It might be possible to begin without the necessity of <u>re</u>-constructing a school

organization if a situation were chosen where the school structure was as yet fluid. But in such a case we would be simply postponing the inevitable necessity of applying lessons learned here to already structured institutions and learning, in turn, how a going organization moves into this radically different manner of functioning.

One of the constant mistakes of would-be educational revolutionaries is the apparently automatic denunciation of educators in general for their allegedly "obstructionist" reaction to attempted change. Usually the charge neglects the required conditions that make change possible. The fact is that any system will resist a kind of process that is imposed from without or one that offers little else but apparent professional suicide. Much of the well-intended pressure is ignored because it is seen as intemperate, unfeeling or self-seeking, as in the case of educational broadcasters who on one occasion were told by one of their number to "...drag American education, kicking and screaming, into the 20th century". The intent of this project is to permit education to have the degree of freedom it needs to rethink its own function and implement worthwhile new approaches in such a manner not so much to threaten as to challenge its ingenuity.

Technology remains the key new "tool" element in the equation of evolutionary education. All the other factors are relatively "known"; this one is not. We have simply not

tied it to the problems education faces. Yet, enough is known to determine that the need for individualization in instruction and simultaneous substantial reduction in the per-unit cost of education are simply not possible without it. It is altogether possible that the hope of such results from the application of technology to schools, particularly the second, are simply not realizable. But there is only one way to settle the question and besides no alternative is presently available.

Communications technology, of which instructional television is part, has a particularly significant role to play in this concept of a restructuring of schools and school systems. People familiar with the problems of reaching audiences, of moving sometimes hostile viewers, of designing messages in appealing ways, have something very important to contribute to educators. Sometimes the worthwhileness of broadcasters' contribution has been romanticized out of all proportion to the realities of learning situations. Nevertheless, one of the prime hopes in our Diocesan school system is the development of a cadre of educators themselves trained in the skills of broadcasting and able to apply that know-how to the substantive challenges of teaching real students.

The television operation in Brooklyn is by no means self-satisfied. For the past two and one-half years it had scrupulously avoided the trap of attempting to restructure our schools with tools that themselves had to be validated

to teachers and students. We have spent this time doing what instructional television systems anywhere have professed to accomplish, namely, the production and transmission of typical televised instructional programs. We feel we have done this despite predictable technical, organizational and educational difficulties.

The result of the effort is interesting in terms of personnel. About seventy-five professional teachers have undergone intensive production workshops designed to give them a first-hand experience of television production. Some of these continued in longer training programs and some eventually became staff members of the Television Center. Another roughly 200 teachers serve as television coordinators for their schools and receive some minimal level of training for their work. The Television Center's staff now numbers 22, including production, technical, administrative and secretarial personnel. All of this means that a total of several hundred professional teachers have been exposed to a real experience of television in education to varying degrees, apart from the continuing general program of education we offer annually to all principals, supervisors and teachers in the school system, now about 5,700 persons. There is a general positive conditioning toward an openness to communications technology inevitable in such an effort.

Now however, it is time for and conceivable that this sophisticated television system, still working out the most basic problems of any I.T.V. operation, become the leading

edge of a general rethinking of the structuring of the school system itself. Until now, television served the needs of our schools in the traditional manner. Now, it should perform a more creative role, one that is made more believable by reason of the new skills and insights available to the school system through the numbers of trained professional teacher-communicators, the professional staff broadcasters, the utilization oriented school television coordinators and so forth. The field of communications is not a foreign element in this school system; it is not administratively or instructionally segregated from the everyday routine of the schools. I believe the time has come for this television facility to project itself into the center of educational evolution as a point of creativity, intuition and catalystic activity.

A dream is stimulating, but will it work? Well, why not? The problem is not: "Can we design technical systems adequate to accomplish instructional objectives". We have been doing that for years, however uneconomically and lacking in pragmatism. The problem is much more: "What objectives do schools seek?" and "How can we integrate communications systems so as to reach identifiable goals at minimum cost?" Now that our own television operation is relatively stable and growing and communications satellites, computers, broadcast facsimile devices, and the gradual emergence of the television tube as a potential universal display for all visual media are all realistic educational developments within the next few years, we are interested in taking the

next necessary steps beyond the traditional stereotypes of both education and communications toward a hazy, but achievable new design for Catholic education in America.